



STATE OF ALASKA

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Alaska Department of Fish and Game

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Sport Fish Division

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ANNUAL REPORT OF PROGRESS, 1959-1960

FEDERAL AID IN FISH RESTORATION PROJECT F-5-R-1

SPORT FISH INVESTIGATIONS OF ALASKA

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Introduction

This report of progress consists of the Job Completion Reports from the State of Alaska's Federal Aid in Fish Restoration Project F-5-R-1.

In 1959 the Alaska Department of Fish and Game, as an agency of the new state, became eligible for participation in the program. Prior to this time the Federal Aid in Fish Restoration activity in Alaska had been a function of the Fish and Wildlife Service. During territorial status the federally conducted operation was appreciably less than the program now possible as a state.

The new state program under the Dingell-Johnson Act was activated July 1, 1959. Eleven separate studies made up the "Sport Fish Investigations of Alaska" project. Eight of the eleven were designed to reconnoiter the state's recreational fisheries resource and to provide background for the development of specific investigations as the need became apparent. Three problems of immediate concern appeared sufficiently defined and full scale investigations were mounted to explore their management implications. These included studies of Arctic grayling, Southeastern king salmon and recreational fishing access.

All of the investigations pose problems unique to Alaska in some respects and all provide ample scope for original work in the fisheries field. The recreational fishing access study is an example. Most of Alaska's fishing waters are still in the public domain and unfettered by private holdings--a unique situation. Successful prosecution of this activity now and in the immediate future can forestall many of the serious recreational use problems currently facing other states.

The various studies were staffed as personnel were recruited. Field work began as the supplies and equipment were procured. Initial progress was slowed somewhat by this and the necessary period of personnel indoctrination. A "cutoff" date for each job from one to three months before July, 1960 shortened the period covered. As a result, these first reports encompass an effective working period of considerably less than one year.

The enclosed progress reports are fragmentary in many respects and the interpretations contained therein are subject to re-evaluation as the work progresses.

ANNUAL REPORT OF PROGRESS
INVESTIGATIONS PROJECT
COMPLETION OF 1959-1960 SEGMENT

State: ALASKA

Project No.: F-5-R-1

Name: Sport Fish Investigations
of Alaska

Job No.: 2-B

Title: Creel Census and Population
Sampling of the Sport Fishes
on the Kenai Peninsula

Period Covered: August 5, 1959 to May 10, 1960.

Abstract:

Job activities were initiated in August with a review of the available background information and aerial and foot surveys of the area's waters. Limited exploratory population sampling was also accomplished. The heavily fished Anchor River was selected for a 1960 census and a latin square design technique developed. Preparations for a voluntary creel census on the Resurrection Bay silver salmon fishery were completed.

Fifty-nine silver salmon were sampled during limited creel census on this fishery in 1959.

Five hundred silver salmon were observed during spawning ground surveys. Glacial water in many Resurrection Bay drainages posed a problem during the survey.

The data collected to date is not adequate for evaluation.

Objectives:

To investigate and measure the sport fish population trends and fishing success in major recreational fishing waters which are readily available to the area's anglers.

To evaluate the effect of management procedures currently applied to sport fishing waters.

Techniques:

Aerial and foot surveys were incorporated with the review of the available background material to delineate the areas of maximum fishing pressure. A limited sampling program, using gill nets and portable traps, also contributed to the preliminary phase.

A paucity of recorded information in most instances necessitated considerable dependance on local interviews with sport fishermen, airplane charter pilots, resort owners and guides in selecting the waters for intensive creel census and sampling. Major emphasis was directed toward development of creel census techniques for the specific fisheries, and resulted in a modified latin-square design stratified for weekends and week days on the Anchor River.

This census will run from May 7, 1960 through October 1, 1960, encompassing the entire sport fishing season. Emphasis is placed on obtaining estimates of the sport harvest of king salmon, silver salmon and steelhead and in addition to estimate angler pressures and catch per unit of effort. Associated biological data will be collected.

Preparations were completed for a voluntary creel census of the 1960 Seward Silver Salmon Derby. Creel census cards will be filled out by the anglers at each major boat landing, salmon weigh-in station and other access points. Aerial counts of boat anglers will be conducted to obtain indices to total pressures as compared to the census card returns.

The techniques used will be discussed in detail in the report of the 1960-1961 job segment.

Creel census field activities in 1959 were directed toward obtaining age-growth data on sport caught silver salmon in Resurrection Bay. Limited stream surveys were also conducted in the Salmon Creek and Resurrection River drainages in an effort to obtain data relative to the location of spawning areas and abundance and timing of runs.

Lengths, weights and sex were recorded from the sport caught silver salmon in Resurrection Bay. Scale samples were obtained. Sport fishing for silver salmon ended, for all practical purposes, on September 1. Fifty-seven salmon were sampled.

Findings:

Length frequencies of the 53 silver salmon measured are listed in Appendix A. Mean length was 25.9 inches with a size range from 13.8 inches to 30.7 inches. Variance was 6.31.

A majority of the salmon sampled had been cleaned. As a result, only 25 fish were weighed. The mean weight of this small sample was 10 pounds 6 ounces.

All streams in the Resurrection River drainage are glacial until freeze-up, except for Bear Creek and the west fork of Salmon Creek. Thus, stream surveys were not too successful. Freeze-up occurred on October 12, permitting limited observations before heavy rains caused thawing and resultant turbid waters.

Due to the inaccessability of Resurrection River, little data were obtained concerning the contribution of this river to silver production. Lack of aircraft prevented aerial survey work in the upper reaches of this river.

Approximately 500 silver salmon were observed during stream survey counts. Peak of spawning activity in Salmon Creek occurred between November 10 and November 20, and somewhat earlier in other systems.

Recommendations:

It is recommended that the field investigations be continued during the 1960-1961 segment to provide a full year's data for evaluation.

Submitted by:

Approved by:

Jean Dunn
Research Biologist
1 June 1960

Alex H. McRea
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E. S. Marvich, Chief
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APPENDIX A

Length Frequencies of Silver Salmon from
Resurrection Bay, August 1959.

<u>Length Interval</u>	<u>Frequency</u>
13.5 - 13.9	1
19.5 - 19.9	1
21.5 - 21.9	1
23.5 - 23.9	3
24.0 - 24.4	2
24.5 - 24.9	2
25.0 - 25.4	3
25.5 - 25.9	5
26.0 - 26.4	11
26.5 - 26.9	10
27.0 - 27.4	6
27.5 - 27.9	1
28.0 - 28.4	3
28.5 - 28.9	1
29.0 - 29.4	1
29.5 - 29.9	0
30.0 - 30.4	1
30.5 - 30.9	1